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ABSTRACT

This document presents four symposium papers on the theme of what might happen in teacher education program research and development if educational psychology were replaced by other bodies of theory, proposition, and research findings. Maxine Green's views, presented in "What the Known Demands," center around the necessity of considering teaching as a personal and social phenomenon that is considerably more complex than as conceived by certain technologists of schooling. The paper suggests that teacher educators are too likely to solve difficulties by more and more precise application of technique rather than through individual values and philosophies. In "Educating for Teacher Growth: A Cognitive-Developmental Perspective," Norman Sprinthall and Lois Thies-Sprinthall review research literature and present a case for using a cognitive-developmental approach to teacher education research and practice. Louise L. Tyler reviews premises from education and psychoanalysis and proposes a program of didactic courses for preservice elementary school teachers in "Teacher Education: An Inner View." An outline of potential contributions of new research studies to teacher education is provided in Walter Doyle's paper, "Research on Classroom Contexts: Toward a Knowledge Base for Policy and Practice in Teacher Education." The basic argument is that classroom contexts pose tasks, which, in turn, shape information processing. (FG)

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Research and Development Center for Teacher Education

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ALTERNATE PERSPECTIVES FOR PROGRAM DEVELOPMENT AND RESEARCH IN TEACHER EDUCATION

Gary A. Griffin and Hobart Hukill

Editors

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R & D Report No. 9019

Summary of Proceedings of

an Invited Symposium for

the Annual Meeting of the

American Educational Research Association,

Los Angeles, 1981

Gary A. Griffin

Program Director

January, 1982

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Introduction

This publication came about as a consequence of a conversation between Betty Ward of Far West Laboratory for Educational Research and Development and myself. Betty was Program Chair for the Research in Teacher Education area of the 1981 Annual Meeting of the American Educational Research Association. I was beginning my work as Program Director of the Research in Teacher Education section of the Research and Development Center for Teacher Education at the University of Texas.

We discovered that we had similar views of teacher education in terms of program development and research. Briefly, we were dissatisfied with the results of decades-long dominance of teacher education by principles, theories, and research findings from educational psychology. We admitted to the contributions psychology had made to the field but were uneasy with the apparent "overpsycholization" of the field. This dependence upon one set of similar themes in terms of influence upon prospective teachers and teachers in service seemed to us to limit the possibilities available to teachers and, ultimately, to students in classrooms across the country.

Our conversation resulted in agreement upon a basic question: What might happen in teacher education program development and research if educational psychology were replaced by other bodies of theory, proposition, and research findings? This broad query became the basis for an invited symposium for the 1981 Los Angeles AERA meeting.

It was fortunate that five scholars took our question seriously. Each of them agreed to participate in the symposium, and on the last day of the meeting, early in the morning, a well-attended session took form.

Maxine Greene argued eloquently for "doing" philosophy as a way toward perceiving and acting upon possibilities in teacher education. She considers

the project of teaching as a personal and social phenomenon considerably more complex than certain technologists of schooling would have us believe it is.

Norman Sprinthall and Lois Thies-Sprinthall presented a case for using a cognitive-developmental perspective as the driving force behind teacher education research and practice. They develop this case from both theoretical and research orientations and provide evidence that this view can (and has) resulted in positive outcomes for teacher candidates and practicing teachers.

Louise L. Tyler's perspective emerged from the theories and practices of psychoanalysis. She presented a synthesis of this body of knowledge as a means to conceptualize a teacher education program which, as she told it, provides the prospective teacher with a way to conceive of "an inner view" rather than only an externally-derived one.

Walter Doyle drew upon his (and others') understandings of classroom contexts as the stuff of which teacher education activities and research can be devised. He shared his considerable understandings of the complexity of the classroom and provided a rationale for using these understandings as guides for program and research.

Bruce Biddle and Sharon Robinson presented thoughtful critiques of the papers (the critiques are not presented here).

It should be noted that the positions presented in these papers are not meant to be the sole source of knowledge to be drawn upon in proposing teacher education research and practice. My own view is that they give us an opportunity to think differently, creatively, and controversially about an education phenomenon, teacher education, which has come to be a commonplace in our society and in our social institutions. I believe it is important to

push back against the complacence and the "dailiness" of that phenomenon. These contributions to scholarship help in that effort.

To the authors of the papers, I extend my thanks. Betty Ward's usual imaginative thinking is acknowledged with gratitude. Hobart Hukill's careful attention to editorial detail is appreciated. And Vicky Rodgers' patient preparation of the manuscripts for publication is an invaluable contribution.

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What the Known Demands:

A Philosophical Orientation to Teacher Education

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In Democracy and Education, John Dewey (1916) said:

> Philosophy is thinking what the known demands of us--what responsive attitude it exacts. It is an idea of what is possible, not a record of accomplished fact. Hence it is hypothetical, like all thinking. It presents an assignment of something to be done--something to be tried. Its value lies not in its furnishing solutions (which can be achieved only in action) but in defining difficulties and suggesting methods for dealing with them. Philosophy might almost be described as thinking which has become conscious of itself--which has generalized its place, function, and value in experience. (p. 381)

I quote that at length because I want to distinguish philosophy from what is often conceived as a purely abstract, analytic exercise of little consequence for lived classroom life. I want to distinguish it as well from the building of overarching systems of thought, in which all questions are answered, all uncertainties resolved. In fact, the posing of questions is at the heart of the "doing" of philosphy--clarifying questions, synthesizing questions, normative questions. To enable teachers-to-be to ask them is to enable them to think about what they are doing, to think about their own thinking. Reflective persons, persons who are "wide-awake" (Schutz, 1962, p. 213) are far less likely to become mere functionaries or technicians, certainly less likely than those who are literally "thoughtless" (Arendt, 1978, pp. 3-5) and out of touch with themselves.

The project of teaching at times like these requires the kind of thoughtfulness that moves people to confront the fundamental questions. The purposes of public education can no longer be taken for granted, nor can its justifications. The institutions of democracy can no longer be taken for granted; nor can regard for the rights of persons, for the benefits to which

they are entitled, for the liberties that are their due. Teachers cannot be mere technicians under such conditions. They must be educated to enter into the discussion of what the schools are for. They must be given the resources they require to articulate and to incarnate the shared norms that ostensibly sustain our society: justice, equality, freedom, concern, mutuality, rationality, decency. Of course they must be held accountable for what they do in classrooms; but they are also responsible (as we who are their teachers are responsible) for remaking our common future, for acting upon perceived possibility.

Philosophy is not to be considered as a potential source of high-level directives for the guidance of practice. It is not a body of privileged knowledge, nor a creed, nor a special mode of insight or expertise. It needs to be done in the world, and most particularly in the world of colleges and schools, done from the vantage point of those engaged or about to be engaged in practice, those purposefully involved in accomplishing or achieving something they consider to be worthwhile. To do philosophy in this fashion is to reflect upon the knowledge gathered in the several fields of inquiry, to examine underlying assumptions, to disclose hidden major premises. It is, for example, to consider the ways in which understanding of classroom events, human relationships, and developmental stages might inform the practical judgments made in classrooms in a pluralist society at this troubled moment of time. It is to ask what the concept "teacher education" actually signifies, what "behavior" means--and "action" and "prediction" and "cognition" and "self."

Clarity is important, as logic is important and the construction of sound rational arguments. To attend to such matters, to <u>care</u> about them is to understand what Israel Scheffler calls the "special connection" between

teaching and "rational explanation and critical dialogue: with the enterprise of giving honest reasons and welcoming radical questions" (1965, p. 11). There may indeed be such a phenomenon as "rational passion" (Peters, 1970, pp. 47-55), a passion linked to solicitude, the capacity to attend that Dewey described as "mindfulness" (1934, pp. 263-266). It is the ability to think about our own thinking that gives rise to such attentiveness, the willingness to ponder "what the known demands."

The critical and analytic questions are essential, I am suggesting; but there is more. Situtations must be created that move students to confront the splits, the contradictions, the dissonances that mark the educational domain today. There are the familiar tensions between the affective and the cognitive, the arts and the sciences, the qualitative and the quantitative. There are the competing demands of equality and the concern for excellence, justice and self-determination, compassion and autonomy. There are the persisting differences between schooling and education, training and teaching. There is the troubling separation between the is and the should, fact and value, that which exists and that which ought to be. To devise questions with respect to such oppositions is to embark on a search for various modes of synthesis: seeing things in dialectical or transactional relationships; creating integrating or unifying perspectives that bring "the severed parts together" (Woolf, 1976, p. 72); patterning areas of the field of experience, effecting connections, becoming "ourselves that network of relationships" (Merleau-Ponty, 1967, p. 456) that brings order and meaning into the world. Those who are provoked to question in this way, to pursue meaning in this way must recognize that perfect synthesis is impossible, that there are no total resolutions of conflict within reach. There is always a vital inconclusiveness in philosophy. An ongoing conversation is presumed,

an ongoing dialogue. It is the sense of the ongoing and the sense of dialogue that enhance consciousness of what it is to be in the world along with others, to have plan of action, to try to achieve, to mend.

And this summons up what may be the fundamental philosophical questions: those having to do with values or with conceptions of the desirable, with principles and moral choices, with imagined possibility. To speak of a value consciousness is to have in mind an awareness of lack, of insufficiency; and it is likely that a perception of insufficience or incompleteness is what moves persons to go in quest of something better, to think of what ought to be. There are, especially for teachers, such matters as community norms and reference points; there are the frequent contests between the public's notion of what is good and right and what the professional has defined. There is the need for a critical address to unexamined rules and prescriptions, as there is the need to inquire into what it signifies to be principles and at once immersed in situations, cognizant of consequences, sensitive to demands. Again, if students are to be motivated to pose the questions, they must feel located somehow; they must be able to articulate their own perspectives and see the possibility of others; they must wonder and probe and experience perplexity. And, from their own places, their own vantage points, they must be brought to understand what is involved in authentic choosing, how values are created in an uncertain world.

Whatever their levels of development, they must see themselves as human, participating in the human condition and engaging with others who are equally human, trying to let those others learn. But there is the matter of what it is to be human and, indeed, if human nature can ever be defined. More important than definition, in fact, is the kind of practice and thought warranted by a particular view of human being. Is the primary commitment to

cognitive development, personal development, vocational development? What assumptions regarding human action and human being sustain each choice? Are certain types of excellence to be preferred, or is it possible to conceive multiple excellences? How, then, are we to define excellence? How do our pre-conceptions about what it is to be fully human affect our judgments of people in the classroom? None of these questions are empirically answerable. All of them demand some analysis of terms, some criticism of the taken for granted, some clarification of what is to be preferred. I am arguing that students be released to frame them, that they be provoked to think of the ways in which they choose themselves and live with others in the world.

To reflect upon the person and his/her growth is inevitably to think about cognition; and no questions are more focal in education than those having to do with epistemology or the problem of knowledge. What we understand about knowing how and know that, about believing, reasoning, judging, and imagining has everything to do with what we come to understand about teaching and learning and the making of curriculum. Indeed, to clarify and interrelate our conceptions of sense-making is to engage in the most challenging, most relevant form of inquiry. Knowing, after all, presupposes involvement with the human and physical world around. It is a process requiring certain kinds of intentional action; and what is called knowledge is a product or function of the initiatives taken, the actions performed.

Theories of knowledge, then, and of knowing come together in a concern for human initiatives and human action. It is rare today to find anyone positing a purely passive, contemplative knower; it is rare to find anyone positing rationality as a mode of apprehending predefined truths. For all the differences in the ways the appropriate cognitive actions are conceived, there is always an emphasis on the perspectives they make possible and on the

need to care about what is being disclosed. It might be said that knowing itself, whether understood as empirical in character, insightful, or in some manner immediate or intuitive, is a particular way of relating to things from a particular location in space and time and in accord with particular protocols. Again, however, the questions have to be asked; students have to be moved to reflect back upon themselves, if the problems are to come clear.

Teachers-to-be, in such a case, may be brought to picture the living being, with his/her own store of experience, building up a meaningful world of things inherited and things learned. In the background, always, there is the common-sense knowledge of everyday life in which everyone's learning and inquiry begin. And that is where the process of conceptualization originates, the activity of organizing and structuring sensory experience by means of certain patterns or schemata or abstract ideas. They may be called constructs, models, perspectives; whatever they are called, they enable persons to impose provisional orders on what would otherwise remain a chaos, a "booming, buzzing confusion." To communicate this; to talk in terms of concepts like childhood, culture, justice, education, art; to indicate the ways in which they map and demarcate the lived world, the ways in which they enable individuals to name things and to see: all this is to offer to teachers-to-be a vision of knowing as participant, as meaning- endowing. It is to suggest to them the ways in which we humanize and inter- pret an otherwise blank world. And it is, at once, to suggest the ways there are of making connections in experience, so that meanings develop and new perspectives, as we know more, as we grow.

Clearly, the questions proliferate the more teaching is studied, the more students discover what is involved in enabling others to learn how to learn. There are such issues as proficiency and precision (Ennis, 1981,

pp. 180-182); there are the always open problems relating to definition and evidence. There are such matters as the relation between the subjective and the objective, the role of perceptual awareness and imagination, the part played by emotion in disclosing what is at hand. Much inquiry in this domain concerns the kinds of curricula that can be justified by specific theories of knowledge, as it concerns the logic of their organization, the explanatory principles, the symbol systems involved, and the relation of all these to the social order and to the world as actually lived.

Teachers-to-be have also to confront the problems having to do with conditioning and indoctrination. Choices have to be continually made as to whether and to what degree students are to be treated as autonomous inquirers who are self-determining or as people who must be shaped and molded, extrinsically motivated, to the end of performing effectively or demonstrating predefined competencies and skills. Should they be indoctrinated with democratic values, or should they be placed in a position to achieve them as a community, if not by their individual selves? Should achievement be given priority, or should growth? How can teachers and teachers-to-be be provided with the kinds of perspective on what is now called "technocratic rationality" (Habermas, 1971, pp. 63-65) that will permit them to be self-aware and critical and, at once, committed to teaching the young what they need to know? The notion of thoughtfulness and its significance returns, along with Hannah Arendt's view that "if it should turn out to be true that knowledge (in the modern sense of know-how) and thought have parted company for good, then we would indeed become the helpless slaves, not so much of our machines as of our know-how, thoughtless creatures at the mercy of every gadget which is technically possible, no matter how murderous it is" (1974, p. 3).

Arendt was asking, too, that we "do" philosophy, at least if we are willing to think about what we are doing. There are so many perspectives to offer, so many languages, so many possibilities to pursue; and, more often than not, thinking "what the known demands" opens windows on domains the specialties exclude. We need only consider the arts for a moment--literature, music, dance, theatre, painting--and the new visions they may reveal on the taken-for-granted and the everyday. The cultivation of aesthetic literacy is what makes an informed awareness possible, an awareness of potential significance for every teacher-to-be. It is what allows persons to be present to a T. S. Eliot poem, a Monet painting, a Mozart sonata; it is what empowers them to bring such works alive in their experience and to find themselves to some degree transformed. This takes philosophical sensitivity as well, as it takes interest and wonder and concern. Surely it is important to acquaint students with a full range of cognitive and affective and perceptual possibilities, so that they can attend more carefully, take more into account as they pursue their meanings and find their way through the world.

We hear of burn-out; we hear of boredom; we hear of malaise and passivity. People who feel numbed and deadened are scarcely likely to commit themselves; nor are they likely to develop an ethical or a moral concern. This concern may be at the heart of a philosophical interest in teaching and learning; indeed, it may be where the questions culminate, if they are authentically posed. Moral choosing, of course, involves the exercise of will by a person who is present to a situation, conscious of what he/she is doing, aware of some purpose to be achieved. Voluntary, uncoerced, it is an action freely undertaken; and this means that it leads towards a future, towards some envisaged possibility. Whether the agent is a Hamlet concerned to "set things right" in a corrupt society, or a Nora desperately wanting to

liberate herself, or an "invisible man" creating himself as "visible" at last, the one making the choice is responding, more often than not, to a summons. Values or norms latent in his/her experience are becoming manifest in response to some situational demand. They would neither become manifest nor serve as a summons if the person or persons involved could not posit some normative community existing within reach. This means a fabric of shared agreements achieved by people who are together in a we-relation, who choose to be together in accord with certain notions of the good and right. How can teacher educators ignore the importance of comprehending and instituting this kind of community? How can schools be anything but training stations, if those within them do not think about living together in reciprocity and with a sense of acknowledged standards and norms?

To "do" philosphy is to inquire into ways of grounding such norms, for all the tensions of a pluralist society. It is to consider such matters as obligation and loyalty and commitment, to ponder modes of justifying what is conceived to be good and right. As Dewey said, philosophy's value "lies not in its furnishing solutions (which can be achieved only in action) but in defining difficulties and suggesting methods for dealing with them," The difficulties are multiple today; but teacher educators are all too prone to translate them into technical problems to be solved by more and more precise applications of technique. I am suggesting that the crucial problems facing us have to do with the way we are together, the way we speak to one another, the way we bring value into an indifferent world. We <u>know</u> more and more; but we think less and less. We have power beyond imagining; but we feel ourselves to be personally powerless. To "do" philosophy is embark on new beginnings in a new and painful wide-awakeness. It is to confront the unanswerable and to reach beyond. It is to come alive to ourselves, to

wonder, to reflect, to move towards possibility. What, after all, does the known demand?

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Educating for Teacher Growth:

A Cognitive-Developmental Perspective

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Introduction

Teacher education in the eyes of some of its kindest critics is at best a reluctant giant. While there is an extensive body of research on the teaching-learning process itself, there is a major lacuna on the process of teacher education. Gage (1978) and Good (Note 1), among others, have pointed out through a version of meta-analysis that a growing number of major propositions vis-a-vis teaching are supported by both theory and research. As a result, this knowledge base can be formed into a framework as guidelines for the teaching process. It is certainly not complete. There is no need to close down the Patent Office section on research in teaching. Yet, on the other hand, there is direction, evidence, and cumulative information.

Compare, for a moment, the state of the art in teaching with that of teacher education. If we accept the proposition that the two are not synonymous, then what do we find? Is there a theory or even a promising conceptual framework for teacher education? And, on the other hand, is there research evidence? On the first point, both Ryan (Note 2) and Shutes (1975) provide extensive "explication du texte" to the conclusion that theory is notably absent. Ryan points out that teacher education program decisions, namely the content and process of undergraduate education, rarely, if ever, are derived from theory. He poignantly suggests that teacher education content is a camel, the product of a committee. Instead of cohesive and coherent programs, "These creatures of committees are dumpy and lumpy, made

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by so many people with different views of human condition and of what are learning, teaching, and the characteristics of skillful teachers. In effect a teacher-education program is a compromise of these many views and, sometimes, of many powerful factors" (Ryan, Note 2, p. 1). Essentially, Ryan's contention suggests that content and process are based on political rather than educational decisions. This does not mean, however, that such decision-makers are necessarily venal or self-serving. The present arrangements, rather, are the natural consequence of the lack of theory and research.

As a recent example, after an unnamed university committee examined its own teacher-education curriculum the conclusions were almost exactly as Ryan would have predicted. The content was arrayed across twenty-two knowledge domains representing the current interests of the on-site faculty. Somewhat realistically, the report noted that domains listed should not be viewed as exhaustive, but, rather, as representative of "all types for which we could find persuasive advocacy."

Shutes (1975) essentially underscores the same theme in his recent and most provocative essay. He notes that all major advances in complex fields of study result from theory. In the absence of requisite theoretical principles, then, practice suffers, "guided at best by fold-wisdom and unevaluated experience, and is noncumulative in building a growing body of reliable, replaceable information" (p. 85).

In other words, there is no critical mass. The result is a practice and a profession which wanders between the cosmic and the trivial without necessarily knowing one from the other. Fads we adopted in one era just as quickly disappear without a trace in the next. Our recent excursion, or incursion, into humanistic education is simply a case in point. Without

theory and certainly without empirical evidence, many teacher education programs cavalierly solved the content-process distinction by announcing that process was content and that the experiential "here and now" is all that we had anyway. We cite this simply to remind ourselves that one of our early god-parents, E. L. Thorndike, was, of all things, an optimist when he concluded years ago that education and psychology had reached the point where progress would be determined by theory and evidence rather than by statements ex cathedra.

While Ryan and Shutes have essentially emphasized the missing theoretical agenda for teacher education, Schalock (1979) focuses on the absent research. His conclusions are hardly sanguine. He cites numerous omissions, a lack of up-and-running research designs, inadequate measurement systems, hardly any good hypotheses to test, and generally a methodology borrowed from other fields without a goodness-of-fit. He points to one obvious indicator of our problem: "A case in point is the essential absence of tested methodology that can be used by teacher education institutions in responding to the NCATE requirement for evaluative follow-up studies of graduates of teacher education programs" (p. 2).

The overall problem, of course, is broader. What is the basis for admission, for the content and process of the program, and for the outcomes in teacher training/education? Admittedly this is a complex question, yet it is time for the profession to begin work on such an agenda. Certainly it is important to continue to improve the study of teaching effectiveness, at the same time we should initiate more research in teacher education as McNergney (1979) so clearly indicates in his most recent review. It is time for the profession to take more systematic steps in the service of theory, research, and practice for teacher education. Toward that goal we will now suggest

some emerging theoretical perspectives as well as research findings which may lead to a promising start for teacher education.

Cognitive-Developmental Goals

Certainly the most difficult and complex question facing any profession concerns the ultimate outcome of its educational efforts. Management by objectives can be a great idea once we know what the objectives are. Teacher education, like other fields, can benefit by a theory of instruction in the Bruner sense, since that provides a basis for prescription rather than simply description. Such a theory would enable us to elaborate our programs within teacher education. We could better articulate the relationships between the what of teacher education and the how. Still, without a clear view of over-all objectives even a prescriptive theory of instruction ends up as basically directionless. Sooner or later, then, we have to face the statement of goals. Just what are the objectives that we aim for? Shades of J. Abner Peddiwell's famous Saber Tooth Tiger. Do we teach specific skills, with today's laundry-list of behaviorally-based teacher competencies serving only as a latter-day version of paleolithic skills with firebrands, clubs, and hand-fishing? Or do we teach for humane generalizations with today's call for educating the teacher as a whole person reminiscent of the tribal elder's desired goals of generalized agility, strength, and noble courage? Obviously, enlightened professionals don't want progress limited only to one or the other direction. In our view, employing a cognitive-developmental perspective avoids such dichotomous choices. A framework built from this perspective can represent a synthesis of specific skills and generalizations. It is possible to have it both ways; a dual focus on highly specific behavioral teaching skills on one hand and general human development on the other.

In the tradition of John Dewey, and buttressed by recent work on a variety of developmental domains by contemporary theorists, we wish to call attention to a broadly-based, growing, theoretical consensus as directing constructs for teacher education. The propositions are indeed direct. Cognitive developmental theory assumes:

1. All humans process experience through cognitive structures called stages--Piaget's concept of schemata.
2. Such cognitive structures are organized in a hierarchical sequence of stages from the less complex to the more.
3. Growth occurs first within a particular stage and then only to the next stage in the sequence. This latter change is a qualitative shift--a major quantum leap to a significantly more complex system of processing experience.
4. Growth is not automatic nor unilateral but occurs only with appropriate interaction between the human and the environment.
5. Behavior can be determined and predicted by an individual's particular stage of development. Predictions are not, however, exact.

These propositions have been supported through a large body of empirical investigation scattered widely through the literature. Piaget's studies are easily the most numerous in support of his stages of growth. Kohlberg, Hunt, Loevinger and Perry validated their own work in a series of original studies, many of which have been subsequently cross-validated by other researchers. We will present a review of the work from a variety of developmental domains which are most appropriate for teacher education. There is no single cognitive-developmental theory which is superordinate. Rather, given the emergent nature of research efforts literally scattered over the globe, the

current state of the art reveals small clusters of researchers working independently and in relative isolation. This gives a sense of partial overlap and at times a sense of relativistic frustration which inhibits the creation of an overall synthesis. Coordinated research efforts may lie in the future, at present we have a series of very loosely connected and mostly idiographic efforts. Table 1 presents a description of some of the theorists, their domains, and their stages. Essentially, the domains represent that aspect of human functioning which that particular theorist found most challenging and regarding.

Do Developmental Stages Make a Difference?

Another way to phrase this question is to ask the Dewey proposition: should education be designed to promote cognitive development? In other words, if humans move from less complex stages to more, does it mean anything in the real world of thought and action? A series of studies of adult functioning in general seems to provide a qualified yes to the question. Studies of adult accomplishments reported by numerous researchers employing slightly different but related indices of psychological maturity reached similar conclusions. Estimates based on psychological constructs of cognitive-developmental competence levels yielded consistently positive predictions. In other words, persons identified during high school or college as functioning at higher, more complex stages than their colleagues were shown to function more successfully in their careers. It should also be noted that in each case, traditional measures of academic/scholastic aptitude did not predict success, while estimates of cognitive development did.

Kohlberg (1977), for example, reviewed literally thousands of studies on childhood predictors of adult performance. He noted that school academic achievement made no independent contribution to successful life adjustment.

Table 1

Domains of Developmental Stages

Theorist	Jean Piaget (1961)	Lawrence Kohlberg (1969)	Jane Loevinger (1966)	David Hunt (1978)	William Perry (1969)
Domain	Cognitive	Value/Moral	Ego/Self	Conceptual	Epistemological/ Ethical
	Sensori-Motor	Obedience-Punishment	Presocial Impulsive	Unsocialized Impulsive	-
	Pre-operational	Naively Egoistic	Self-protective	Concrete Dogmatic	-
	Concrete	Social Conformity	Conformist	Dependent Abstract	Dualist
	Formal Substage 1	Authority Maintaining	Conscientious	-	Relativist
	Formal Substage 2	Contractual Legalistic	Autonomous	Self-directed Abstract	Committed-Relativist

Instead, he found that indices of psychological development did predict success--success in this case measured by occupational achievement and absence of crime, mental illness, unemployment, and expert ratings of life adjustment.

A sixteen-year longitudinal study sponsored by the Ford Foundation (Nicholson, Note 3) yielded similar results. With an overlapping design and sample sizes of 400 to 500 students, the study reported that estimates during school of psychological-developmental maturity were effective predictors not only for college success but also in follow-up. Employing a combined index of success (Who's Who, peer judgment, advance graduate work, economic success, etc.), the findings indicate that scholastic aptitude score (with a 150-point difference in some of the samples) was not related to "life success" but that once again estimates of developmental maturity were.

Most recently, Heath's (1977) longitudinal studies with college-age samples reached similar conclusions. Carefully-identified constructs such as ego maturity and competence were significantly related to a broad and multiple definition of life success, while academic achievement was not. The ability to symbolize one's experience, to act allocentrically with compassion, to act autonomously with self-control, and a disciplined commitment to humane values--these formed part of the core of psychological maturity. Ironically, he found, especially for the Americans in his cross-cultural study, that, "Adolescent scholastic aptitude as well as other measures of academic intelligence, do not predict several hundred measures of the adaptation and competence of men in their early thirties. In fact, scholastic aptitude was inversely related in this group to many measures of their adult psychological maturity, as well as of their judged interpersonal competence" (pp. 177-178).

Finally, on this point McClelland (1973) very clearly suggests that success in living apparently has a small relationship to academic content mastery. In noting the educational version of "Catch 22," he underscores the point that scholastic tests only predict grades in school, yet grades do not predict success in life. He quotes from a series of studies of successful performance in jobs as varied as bank tellers, factory workers, air controllers, and scientific researchers as evidence of unpredictability. As a result, he suggests, as the others already noted, that psychological competence is a far more significant educational outcome than content acquisition.

If cognitive-developmental stage predicts differential functioning for adults in general, then what about adults in the helping professions, especially teachers? Are they a specific instance of the same generalization? Most recent studies of physicians by Candee (1977) quite clearly indicate that MD's at more complex stages of development (in this case, in the Kohlberg domain) function more democratically with patients than lower-stage colleagues even though both groups did not differ on traditional measures of academic achievement. The more developmentally complex doctors were more empathic, flexible, and responsive in enlisting the patient as a colleague in the service of their own treatment plan. The other doctors were more rigid, authoritarian, and perceived patients as fitting highly simplified cultural stereotypes. Similar findings were reported in studies of physicians (N = 348) by Sheehan (Note 4), who reported a positive correlation (+.57) between indices of psychological/moral development and humane physician competencies which were similar to Candee's criteria.

Silver's (1975) study of school principals, in this case measuring development with David Hunt's system, indicated significant differences in

perceived leadership style in accord with developmental level. She found that principals who scored at the more complex levels on Hunt's estimate of conceptual development were perceived by their teachers as more flexible in problem-solving, more responsive, less rigid, and less authoritarian--in other words, a pattern of functioning highly congruent with Candee's and Sheehan's physicians.

Studies of teachers are both more numerous and equally supportive of the general thesis. For example, studies by Hunt and Joyce (1967), Murphy and Brown (1970), and Rathbone (Note 5) reach highly confirmatory findings. Teachers' behaviors consistently associated with High Conceptual Level scores are described as flexible, responsive, adaptable, empathic. Such teachers employ different levels of structure according to pupil needs, use a wide variety of teaching models in their classrooms, are indirect, and read and flex with pupils. In short, High Conceptual Level teachers perform in the classroom in a manner which fits closely with several behaviors associated with effective teaching.

This is particularly important to underscore. Gage (1978) has recently noted that there is a consistent scientific base for the art of teaching. His quite elegant meta-analysis indicates that the know-nothing view of teaching effectiveness is neither valid nor fashionable. He provides a systematic review of research suggesting very strongly that indirect (I/D) teaching in the Flanders sense is positively associated with pupil gain. In 13 of the 16 studies reviewed under his conservative rules, the measure of effectiveness was the I/D ratio. He concluded that teacher indirectness was highly significant as a causal factor in pupil achievement. He further indicated that particular elements of the Flanders categories were noteworthy. For example, the use of teacher praise and accepting pupil ideas

were positively related to positive attitudes and achievement by pupils while criticism and disapproval were negatively correlated. In other words, indirect teaching is consistently associated with pupil gain and is a major characteristic of psychologically mature/high conceptual level teachers.

The same set of findings, although not as well documented, is emerging from recent research in counselor effectiveness. In fact, in their exhaustive review of the literature, Bergin & Garfield (1978) conclude that the only consistent factor associated with counselor/therapist effectiveness is positively associated with higher stages of cognitive complexity. Counselors rated at higher developmental stages were more positively interactive with clients (Lichtenberg & Heck, 1979), employed a greater variety of counselor models (Goldberg, 1974), and manifested more accurate levels of empathy than counselors at more modest levels of developmental maturity (Magnus, Note 6).

A recent study by Bielke (Note 7) found major differences in patterns of effective parenting according to developmental level, in this case Loevinger's index. Mothers at more advanced developmental levels were rated on a series of observational scales as more responsive, empathic, and sensitive to the needs of their infants, on a longitudinal basis at 6, 12, and 18 months. Videos of actual mother-child interactions formed the basis for the observations. In other words, the higher-stage mothers were better able to exhibit complex and effective nurturing behaviors than their lower-stage cohorts.

All these studies point toward the same conclusion. However, the samples differ widely, the research methods varied, and the instruments themselves were dissimilar to a degree. In each different situation, a different aspect of cognitive development was the focus. Some used Hunt's

theory and Conceptual Level tests, others used Kohlberg's theory and either the MJI (Moral Judgment Interview) or the Rest Defining Issues Test, still others employed the Loevinger theory and her Sentence Completion Test. Regardless of these specific differences, however, the overall results were highly similar, namely that persons judged at higher stages of development function more complexly, possess a wider repertoire of behavioral skills, perceive problems more broadly and can respond more accurately and empathically to the needs of others.

Hunt (1971) has termed this the "New Three R's"--responsiveness, reciprocality, and reflexivity, or a person's ability to "read and flex" with pupils. Kohlberg (1977) refers to the process as the ability to role-take, to empathically place one's self in the shoes of another and to make decisions according to standards of democratic and justice principles. Loevinger (1966) denotes higher stage functioning as the ability to tolerate stress, to attend to the least compelling stimulus, to process decisions according to democratic principles, and to perceive questions from an objective, third-party perspective. Other theorists such as Heath, and William Perry, employ somewhat differentiated concepts: Heath's psychological maturity comprehends both rationality and allocentrism (1977); Perry's advanced stages are referred to as the process of commitment in relativism (1969). At an abstract level, however, there are basic similarities across all developmental domains. Loevinger has stated the truism that all developmental theories must positively correlate, while Sullivan, McCullough, and Stager (1970) have proved the point empirically with moderate positive correlations in the =.4 to =.6 range between measures of difficult constructs (Hunt, Kohlberg, & Loevinger). Also, to a significant degree, the variations in theory and the higher degree of

independence by the different theorists can serve as a means of cross-validation. The theorists themselves have worked very much independently, created and tested out their own instruments, and have only recently (in the past decade) become aware of each other's work. Such independence, of course, does have its limits if synthesis is the ultimate goal. However, during initial phases of theory building and heuristic activity, the independence and inner-directedness of the researchers does add credence to a cumulative body of promising theory as an explanatory base for complex human functioning. We still are a long way from closure, of course, yet some elements for an overall framework of directing constructs are emerging.

Now the Switch: Cognitive-Developmental Stage from an Independent Variable to a Dependent Variable

If, as the previous studies have indicated, different cognitive-developmental domains predict different levels of functioning, then is it possible to consider stage as a dependent variable? If we can assess a person's stage, then we can make certain behaviorally-based predictions, e.g., lower stage teachers will generally employ highly structured instruction (rule, example, rule, etc.) regardless of pupil needs and responses. Such teachers will also employ a limited number of teaching models, and tend to provide teacher-centered instruction. In other words, there will be very little interaction. The pupils will have almost no impact on the teacher. Regardless of circumstance, the classroom atmosphere will remain stable. Similarly, the reverse would hold in predicting the performance of higher stage teachers. Such teachers would employ significantly different strategies with groups of children depending on their needs and responses. Given this picture, then, do we conclude that we simply

pick the higher stage candidates for teacher education programs and then move on to look for new problems to solve? It is hardly that simple. At present it would be most dangerous to assume that a young adult's present stage is a permanent classification. In fact, it would be a mistake of the greatest significance to assume that an individual's current stage is fixed. Such an assumption would be at least as great a theoretical error as Terman's original Americanization of IQ as a measure of native and immutable intellectual functioning. Instead, developmental theory must avoid such a reification. The theories all are based on the assumption of growth as a result of appropriate interaction in facilitating environments. This basic tenet must not be forgotten in any review of stage as an independent variable. Studies have been cited previously to point out that stage does make a difference in complex human performance. The major question, now at hand, concerns what is called "modifiability" (Cronbach & Snow, 1977), "malleability" (Hunt, 1978b), or, more simply "educability" (Dewey, 1916). In other words, can we as educators do anything to stimulate developmental growth? Or, more crassly, what happens if cognitive-developmental stage becomes a dependent, rather than an independent variable, a criterion rather than a predictor, a target of educational programs rather than a fixed trait? This is a key question for all the obvious reasons, the most obvious being that such a switch transforms developmental theory from a latter-day version of fixed trait and factor personality theory to a theory of instruction. Rather than describing relationships in terms of a theory of learning, such a change would involve prescribing instructional activities to induce developmental growth. For teacher education, then, such a transfer would move toward the creation of different learning atmospheres, a teacher education curriculum differentiated by developmental concepts. In short,

this would mean a major paradigm shift (Kuhn, 1970) from description to prescription.

The developmental assumption of interaction holds that effective teaching involves the process of "matching" and "mis-matching" environments according to the developmental level of the learner (Hunt, 1971). Thus, developmentally immature persons would interact best in a highly structured environment, with rule/example/rule teaching, short-term rewards, low ambiguity as to expectations, etc. (The term, high structure, itself implies multiple components. A recent thesis by Bents (Note 8) contains a most impressive analysis of the complex meaning of the concept of structure.) The opposite would hold for psychologically mature learners.

But are we sure that such a shift is justifiable? After all, the basic Attribute-Treatment-Interaction (ATI) concept has been judged wanting over the past decade. Is the idea of developmentally-based intervention a new round of criticism and failures, snatching defeat from the jaws of victory one more time so to speak?

On this point we think not. We agree with Hunt's cogent comments on the premature funeral for ATI, an idea abandoned before its time (Hunt, 1978b). Essentially, the research basis for ATI in the past has focused too minutely on a search for statistical interactions before the investigators had created carefully defined and developmentally differentiated teaching programs. Also, the studies did not employ assessments of developmental level as dependent variables. Thus, it would be difficult if not impossible to find empirical evidence supporting the concepts of matching and mis-matching without creating differentiated instruction on one hand and using measures of psychological development on the other. This does not mean that there is a huge body of evidence supporting the efficacy of developmental interventions,

e.g., programs designed to differentially raise developmental stage. However, there is some evidence and it may represent a most important harbinger.

With college students, programs developed by Widick, Knefelkamp, and Parker (1975) suggest that a differential curriculum can stimulate cognitive-development and that different instructional strategies are effective only for particular groups. They designed their curriculum using William Perry's theory and measures, and instructed college students in English classes in significantly different modes. One group assessed at Perry's concrete-dualistic stage (highly analogous to Hunt's 1.5 stage and Loevinger's Stage Three) received substantially structured teaching, explicit homework assignments, positive short-term feedback, and encouragement. These are the usual, recommended approaches for how to start instruction with lower stage pupils. A second group, similar in background characteristics, but at a higher stage, Perry's relativistic-abstract (similar to Hunt's 2.5 stage and Loevinger's Stage Four), received more open-ended, self-directed, interactive teaching and negotiated assignments. The results indicated that the differentiated curriculum worked for the first group and not the second. For the first group, the high-structured English teaching at the outset followed by more open-ended strategies seemed to promote growth on Perry's stages from Dualist to Relativist for pupils originally classed as Dualist. The student originally grouped as "Relativist" did not show movement to the next stage on the scheme (Widick & Simpson, 1978). The pupil's English essays were rated at the end of the term according to Perry's system as a measure of developmental stage.

As Table 2 indicates, within one college class with 31 pupils, 21 of 22 students who started at the Dualist level on the Perry scheme, improved

Table 2

Summary of Within Group Effects
College of Liberal Arts English Classes (N=31)
(Widick & Simpson, 1978)

Initial Developmental Stage (Perry's Scheme)	Major Stage Gain (From 2/3 to 1 Stage)	Minor Gain or No Change (1/3 to No Change)
Dualist/Multiple Concrete (N=22)	21	1
Relativist Abstract (N=9)	5	4
	26	5

$X^2 = 4.85^*$

$P < .05$

*Yates Correction

significantly on level of psychological maturity. The higher stage pupils essentially broke even, with five improving and four remaining the same.

A long series of first-generation curriculum trials at the secondary level show similar results (Sprinthall, 1980). The high school classes were set up to deliberately raise the general developmental level of secondary school age pupils. The results indicated that such classes on the average were successful as a means of stimulating psychological maturity. Comparing experimental classes as a whole to regular classes favored the special programs. Table 3 presents the overall findings employing the Rosenthal (1978) technique to combine the results of independent studies. This quite clearly suggested that the educational classes which included significant student role-taking as peer counselors, peer and cross-age teaching, and/or community internships, positively impacted the general level of psychological stage development estimated from the Loevinger and Kohlberg/Rest indices.

When a post hoc analysis of some of the within-class differences was conducted, that is, of pupils who gained versus the pupils who showed no change, it was found that the curriculum was having a differential impact (Table 4). Students at the so-called modal or regular developmental stages for adolescents improved while their higher stage colleagues remained the same. Of 34 students at the equivalent of Loevinger and Kohlberg Stage Three (initially), twenty-five demonstrated significant stage growth. However, of 17 high school students at Stage Four or higher, only 3 demonstrated significant growth. The semi-structured role-taking curriculum had a differentiated impact on the sub-groups of teenagers, depending on their initial stage characteristics. We may tentatively infer from this that developmental stage, as a dependent variable, can be impacted by particular instructional procedures. Analysis of within-group differences tends to

Table 3

Overall Effects of Programs Designed to Promote Psychological Development

Study	Loevinger Estimate: Ego Stage Change			Kohlberg-Rest Estimate: Moral Judgment Stage Change		
	t	df	One Tail P	t	df	One Tail P
Hedin (Note 9)	+3.65	43	.001	+5.31	36	.001
Cognetta (1978)	+3.49	42	.001	+2.13	30	.05
Exum (1977)	+5.67	23	.001	--		
Rustad & Rogers (1975)	+3.58	39	.001	+1.35	41	.10
Mosher & Sullivan (1975)	+1.96	27	.01	+1.98	27	.05
Dowell (Note 10)	+8.54	37	.001	+1.80	37	.08
Sum	26.39	211		12.57	171	
$t = \frac{\Sigma t}{\sqrt{\Sigma[df/(df-2)]}}$						
t=	+10.67		<.001	t=	+5.46	<.001

(For summary of the specific studies, see Sprinthall, 1980.)

Table 4

Summary of Within Group Effects
Secondary School Programs (N=51 pupils)

Initial Developmental Stage		Significant Developmental Gain	No Change
Loevinger Kohlberg/Rest	Stage 3 or Below	25	9
Loevinger Kohlberg/Rest	Stage 4 and Above	3	14

$X^2 = 14.29$

$<.001$

Table 5

Differentiated Instructual Program

in Psychological Development

(Secondary School Pupils)

Hedin (Note 9)

	Experimental Sub Groups: Developmental Gains Scores (Loevinger & Kohlberg-Rest)*	Control Sub Groups: Developmental Gains Scores (Loevinger & Kohlberg-Rest)
Initial Stage Group		
Low (Loevinger = A, Δ3 and Kohlberg-Rest $\bar{X}$ = 12.4P)	N= 6 $\bar{X}$ gain = +4.3	N= 8 $\bar{X}$ gain = -1.53
Middle (Loevinger = 3,3/4 and Kohlberg-Rest $\bar{X}$ = 22.7P)	N= 11 $\bar{X}$ gain = +5.53	N= 11 $\bar{X}$ gain = +.01
High (Loevinger = 4,4/5 and Kohlberg-Rest $\bar{X}$ = 30.2P)	N= 4 $\bar{X}$ gain = +5.45	N= 4 $\bar{X}$ gain = -.50

*For purposes of illustration we added the average gain scores on Loevinger with the Kohlberg-Rest for a combined index of developmental changes e.g. For the Middle group (E) this gain on Loevinger was +.73 and the Rest was +4.8 -- For the Middle group (C) it was -.09 on Loevinger =1.0 on the Rest.

support the view that specific learning environments may promote developmental growth. A role-taking curriculum for secondary school pupils (Sprinthall, 1980) and a high-structured English curriculum for liberal arts students (Widick, Knefelkamp, & Parker, 1975) had differential effects. When the curriculum and teaching strategies "matched" and then positively "mis-matched" the pupils' level of development, cognitive-developmental growth occurred, a tentative inference based on post hoc analysis.

Three Studies of Differential Effects

Post hoc analyses of three recent studies have been conducted which may shed more light on the possible positive and negative effects of developmental matching and mis-matching. On the positive side, Hedin (Note 9) set out to deliberately differentiate instructional programs for secondary pupils according to cognitive developmental level. She sub-divided a high school class of 21 pupils according to assessed stage. This created three sub-groups in a social studies class--a low-concrete-stage group (on Loevinger & Kohlberg-Rest), N = 6, a middle-stage-group on the same instruments, N = 11; and a high-stage sub-group, N = 4 (Table 5). She identified a matched control class with three similar sub-groups according to initial stage. Next, she devised a differentiated curriculum and teaching strategy (see Table 6). After examining several first-generation studies, she varied structure, role-taking responsibilities, and cognitive examination of experience according to initial stage. The control class received a general action-learning program.

Table 6

Learning Environments Matched to Stage

(Hedin, Note 9)

Stage of High School Pupils	
	Structure:
	Close supervision in field experience.
	Simple, clear tasks.
	Grade based on quantity of work and fulfilling contract.
Kohlberg Stage 2	Gradual increments of responsibility and initiative from modest levels.
Loevinger I-1	Journal writing--specific questions to respond to weekly.
Delta Delta Three	Work in team to develop loyalty and responsibility to others.
	Types of experiences:
	Empathy or caring experience with persons likely to show appreciation, such as children, elderly, handicapped, or retarded children.
	Volunteer in nursing home or day care center with specific, clearly-defined duties.
	Discussion of moral dilemmas through role-playing original dilemmas or those encountered in field experience.
	Peer counseling.
	Structure:
Kohlberg Stage 3	Moderately complex tasks.
	Willing to perform tasks without constant supervision, but seek approval and recognition from supervisor.
Loevinger I-3	Grade based on quantity and quality of work.
I 3/4	Team or group work to consolidate this stage; individual work to stimulate to next higher stage.
	Journal writing--choice of questions to respond to; questions related to multiple explanations and causation; conflict between pleasing others and upholding rules.

Types of experiences:

To consolidate stage--caring experiences; work in social and human service agencies.

Peer counseling and consultation.

Cross-age teaching, with freedom to select activities, methods, materials from curriculum guides.

Activities which require development of personal relationships with others.

To stimulate to next stage--volunteer work related to public affairs, e.g., voter registration.

Lobbying efforts related to earlier volunteer experience in social service.

Structure:

Kohlberg Stage 4

Abstract, complex tasks.

High level of responsibility and initiative.

Loevinger 4
I 4/5

Carrying out responsibilities in absence of strong degree of adult supervision and support.

Grade based on student's as well as instructor's judgment.

Collegical relationships with adults.

Types of experiences:

Research projects.

Internships in government, corrections, law, regulatory agencies.

Attempts to influence public policy.

Peer counseling on sensitive, controversial issues, e.g., rape, birth control.

Cross-age teaching--moral dilemmas, controversial issues--where students have freedom to design their own curriculum.

Systematic experiences in rule-making and democratic governance of schools.

The results are summarized in Table 5. Generally, each of the experimental sub-groups improved on developmental indices while in every instance the matched control sub-groups essentially remained unchanged. This could indicate that matching the content and process of so-called action learning programs is necessary if all students are to benefit psychologically from the experience. When compared to the first generation of studies at the high school level, there is a clear difference since each sub-group improved in the Hedin study. By systematically varying the classroom structure and field assignments, each group was able to manifest significant stage growth. Of course, this single study does not prove the point. The sample size is relatively small, an intact high school class, and replication is requisite. However, it may point the way to more studies with a deliberately differentiated curriculum according to initial stage characteristics of the learners. The overall effect of the Hedin study, of course, was highly congruent with the prior studies. The experimental groups as a whole always demonstrated positive gains on developmental indices while control and/or quasi-control groups always remained essentially unchanged. Thus, there is strong support for the general preposition as to the modifiability of developmental stage. What we now need to work out is more careful instructional prescriptions which can be tried out and evaluated with other populations to learn more about the limits and opportunities for matching learning environments according to stage characteristics.

A second study on effects of matching was conducted recently by the second author. Hedin, of course, had not examined the possible effects of teachers at different stages interacting with pupils at different stages. Since she taught both the experimental and control classes herself, and was obviously at a relatively high developmental stage, it was possible to

examine the curriculum structure but not differences due to different stage characteristics of teachers. To examine this second question, namely, the possible effects of developmental stage matching and mis-matching between teachers and learners, a study was conducted with a sample of student teachers and their supervisors (Thies-Sprinthall, 1979). This permitted an examination of matching by dyad pairs according to developmental levels. In the earlier matching studies the attempt was made to match a single teacher to a classroom of pupils. The procedure as described by Hunt did not yield productive results largely because of so many natural setting and uncontrolled events. In the current study it was thought that by focusing on dyad matches and mis-matches it might be more feasible to assess possible impacts. As a result, the researcher identified two samples of student teachers who were significantly different on developmental characteristics using the Rest as an estimate of psychological-moral development and the Hunt as a estimate of conceptual maturity. There were 16 student teachers identified as "High" principled thought and conceptual level--a combined index of Rest and Hunt, and 13 student teachers identified as "Low" on the two measures drawn from total population of 93 student teachers. The student teacher sample, by design, was almost equally divided by conceptual level, 16 High versus 13 Low. The classroom supervisors tested on the same instruments, however, were those already assigned to the student teachers. As a result, the distribution of developmental and conceptual level of the classroom supervisors were not equally split; only 9 were classed as High and 20 as Low. The four dyad groups were of unequal size as a result.

To assess possible interaction effects according to developmental stage dyads, the supervisor ratings were compared to classroom performance ratings by a 20-minute video near the conclusion of their student teaching. The

supervisors' judgments, of course, were highly subjective even though a scale was used complete with behavioral descriptions of effective versus ineffective teaching modes. The videos were analyzed and blind scored by an independent judge trained in the Flanders system, since Gage's summary had emphasized the validity of the ID ratio as an index of effective teaching. This was to provide a more objective analysis of the student teaching behavior. Finally, the four-year grade point averages were computed for the two student teacher groups. Table 7 presents the comparison across the two samples of student teachers grouped by developmental level. The results indicated that there was no difference in GPA but a difference in the predicted direction favoring the High Stage group on the ID ratio, as expected, and that is quite consistent with prior Hunt studies. The student teachers at more advanced developmental levels were more indirect in their teaching and employed a greater variety of teaching modes. The ID ratio was computed by adding responses in categories 1-4 (the indirect methods) divided by all seven categories.

The results summarized in Table 8 suggest that there may be a major difference in the observation and judgment between the 5 matched pairs of Group One and the 11 mismatched pairs of Group Three. In the latter group the 11 student teachers had high developmental stage scores and were supervised by cooperating teachers who had low stage scores. The student teachers in that mismatched group received the lowest subjective ratings even though their more objective Flanders ratio was the same as for Group One. In Hunt's studies of teacher-pupil interaction in classrooms, he found that low stage teachers were rigid, inflexible, demonstrated a limited repertoire of teaching models--in other words could not "read and flex" with pupils. In the current study the pattern may be the same except in this case it occurs in a

Table 7

Academic Performance, Flanders Ratio,

And Developmental Level of Student Teachers*

Student Teachers (only)		Academic Average	Flanders Indirect Ratio (1, 2, 3, 4 ÷ 1 through 7)
High Group			
N = 16	mean score	3.15	45
	s.d.	.41	
Low Group			
N = 13	mean score	3.01	31
	s.d.	.35	
		t = n.s.	t = 1.9 p < .03 (1 tail)

*The High and Lo groups were designated by a combined index of the Rest (DIT) and Hunt (CL) tests.

Table 8 presents the results of student-teacher performance according to the four dyad groupings. The supervisors' subjective ratings are compared with the average Flanders ratio in each of the matched and mis-matched groups.

Table 8

Student-Teacher-Supervisor Groups
Supervisor Ratings and Flanders Ratios

	Supervisor Ratings	Flanders Indirect Ratio for student teaching
Group One		
High CL/PT Student Teachers Matched with High Supervisors N = 5 pairs	Superior teaching flexible, innovative, responsive, etc.	45
Group Two		
Low CL/PT Student Teachers Mis-Matched with High Supervisors N = 4 pairs	Average ratings adequate but not outstanding, oscillates between rigid and flexible, etc.	38
Group Three		
High CL/PT Student Teachers Mis-Matched with Low Supervisors N = 11 pairs	Average to Mediocre ratings: limited teaching styles	45
Group Four		
Low CL/PT Student Teachers Matched with Low Supervisors N = 9 pairs	Same as Group Two	28

two-person dyad between supervisor and student teacher. Unfortunately, we did not collect process recording of the actual supervision session in the four subgroups so we can only infer that positive interactions may have been more limited in the mismatched Group Three, due to the discrpancy between the subjective performance ratings. Similarly, such recordings might have revealed more information on the other groups, particularly the possible differences between Group Two--High-Stage supervisors and Low-Stage student teachers--and Group Four--the matched Low-Stage group. In any case, the overall findings suggest that there may be very significant differences in the interactions according to matched and mismatched teacher-learner groups. This is not to suggest, however, that we should simply strive for compatible matching. At least theoretically, there is a strong argument that the higher stage teacher, or supervisor, is always preferable since such a person can provide for differential learning environments depending upon the developmental needs of the learner.

A study by Hanson (Note 11) attempted to further illuminate the possible impacts of developmental matching and mis-matching. In her case, she studied the three-way complex of the developmental level of the pupils (junior college students), the curriculum materials, and the faculty. She tested the pupils directly on the Hunt. The materials (readings, course objectives, etc.) were assessed through a method she created based on Bloom's Cognitive Taxonomy. The faculty were assessed through ratings of their tape-recorded tutorials and complexity level of their quizzes. Her findings for four sections of a freshman introductory course (N = 35 pupils) were quite provocative. The curriculum itself, required readings, and course objectives were quite high on the Bloom--66% of the course objectives were classified from Level Three through Six and only 33% in One and Two (see Table 9).

The students presented average CL scores of 1.78 (.35 s.d.) and could be considered as moderate to moderately high CL for pupils in that range. The tests and the teacher questions, however, were quite low. 91% of the quiz items were rated as Bloom I or II. 81% of the instructor statements in the tutorials were rated at I or II, and 93% of the questions which the instructor asked called for an answer at the I or II level. Of course, one cannot really conclude that the course instructors were themselves at a lower developmental level than the pupils, as was the case with the Thies-Sprinthall study. On the other hand, the instructors were certainly engaging in critical dialogue and asking exam questions at very low developmental levels. In an overall sense, the three-way interaction can be depicted in the following chart.

The Hanson findings suggest, at minimum, that there is a substantial mismatch between the curriculum objectives and teaching strategies. Also, it appears as if the pupils are somewhere in the middle between abstract goals and concrete--rote exams and questions. It may be small wonder that under such conditions there is no change at all in the CL of the pupils between their freshman and sophomore years; in fact, the score was exactly the same, 1.78, for both years.

None of these studies, either singly or cumulatively, however, can be considered definitive. Yet these investigations may help us unlock some of the complexities of theory and practice for teacher education.

Summary and Implications

We began this paper with the suggestion that there is a great need in teacher education for theoretical frameworks to generate a cumulative research and practice basis to guide programs in teacher training. We noted the current dearth of effective directing constructs for such efforts. To

Table 9

Developmental Levels: Junior College
Curriculum, Pupils and Teachers
(Hanson, Note 11)

Curriculum	
Materials & Objectives*	High
(N = 138 Units)	66% Bloom 3-6
Pupils	Moderate
(N = 35)	$\overline{X}$ = 1.78 Hunt
	sd = .35 CL
Teachers (N = 4)	Low
Written Quizzes* (N = 168)	91% Bloom 1-2
Tutorial Statements (N = 306)	80% Bloom 1-2
Tutorial Questions (N = 266)	93% Bloom 1-2

(*The interjudge reliability for the rating schemes were +.91 for course objectives, +.89 for quizzes, +.82 for statements, and +.79 for questions.)

fill this void we tried to make a strong case for a cognitive-developmental approach for teacher education. Based upon a selective review, we indicated the possible effectiveness to the profession in adopting developmental goals as program objectives. Studies of successful adult functioning in complex careers such as the educational and medical professions as well as for adults in general supported the construct validity of developmental stage as a predictor. We also suggested that developmental stage could well become a dependent variable--that programs should be created to test out procedures to deliberately impact or modify one's current stage. We reviewed some recent studies at the high school and college level which supported the idea that different learning environments may have differential psychological impacts upon various stage characteristics of client populations.

The implications are multiple. Further research studies are clearly needed. We would certainly urge our colleagues to adopt the cognitive-developmental model. For example, in pre-service programs, we could foresee the possibility of applying a series of differentiated learning environments and differen. supervision techniques to grou|s of student teachers according to their entry developmental level. This is not to suggest that the developmental stage of the student teacher would become a permanent classification, nor a means of screening out candidates. The initial stage represents an individual's current pr.ferred style, and matching the instruction (both content and process) to this initial level is really nothing more than Dewey's original dictum of starting where the learner is. The difference now is that we do have a more precise means of assessing psychological maturity of the teacher education student. Bents (Note 7) has shown that student teachers initially classed as low to moderate

on the HUNT CL system tended to learn more adequately under the so-called rule/example/rule method than student teachers at higher stages.

In a sense we are suggesting that a pre-service program could be constructed in a manner paralleling Hedin's work with teenagers. In other words, we could carefully articulate two or three distinctly different learning environments for pre-service teachers. The content and process throughout the various phases of training could be designed in accord with our "best shot" as to developmental matching principles. With careful assessment through formative evaluation, such a program could then itself be changed. In any case we need such a field-based tryout in order to refine and add to our current knowledge base. We certainly take the position that there is enough logic to the theory and supportive empirical evidence to merit systematic trials. As Ryan noted at the outset, there is very little logic and apparently no research evidence to support the current highly general approaches now common to teacher education.

A second and related implication comes from the Thies-Sprinthall study. The supervision of student teaching has long been a troublesome aspect of programs in teacher education. Mosher & Purple (1972) in their seminal work referred to supervision as a "reluctant profession," while Blumberg (1974) more recently was even less kind. As least part of the difficulty seems to derive from an inability to specify the supervisor's role. Either the role is so global--i.e., general clinical supervision, or too specific--i.e., supervision as individualized instruction, that it is most difficult either theoretically or empirically to create a systematic approach. The study point out possible positive and negative effects in the student-teacher cooperating teacher dyad suggests a need for careful work with in-service cooperating teachers. In fact, the second author (Thies-Sprinthall, 1980) is

currently conducting a first attempt to systematically instruct cooperating teachers through a method designed to raise the teacher's developmental stage. If differentiated learning environments can promote developmental growth for the teacher education student, then will the same hold true for cooperating teachers?

In the third area, the Hanson study suggests that we need to attend to the so-called formal curriculum content in developmental terms. Thus, the readings, homework assignments, and even (perhaps) examinations may unintentionally represent different developmental levels and thus could conceivably be over or under the developmental level of the student. Systematic assessment and initial matching on formal content could represent a more adequate theory and practice for professional education.

It can be said that good teachers have probably known all these ideas at least intuitively for over 2,000 years. To start where the learner is and gradually challenge and support is after all at the heart of effective instruction. Recent theory and research studies present us with a somewhat more articulated version of this ancient truism. Higher stages of psychological development benefit both the teacher and the learner. Higher is better in the sense that it is more complex both intellectually and empathically. Thus, the higher stage teacher is more adequate as an instructor and can meet the needs of a broader group of pupils. Also, the higher stage supervisor may be capable of providing different levels of supervision according to the needs of the student teacher. Finally, higher stage curriculum content would connote differentiated levels of materials in order to provide learners with recognizable information which could be accommodated.

The challenge is to begin to put this into practice. Naturally, this is only a beginning, but it is our contention that pilot studies of differentiated teacher education programs are now needed as a basis for further steps. A cycle of trial and formative evaluation can provide feedback for further research and development. Such a process would begin to accumulate wisdom for teacher education theory and practice.

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Teacher Education: An Inner View

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Psychoanalytic Background

My first awareness of Freud or of psychoanalysis was about 1934 when I was a junior in high school. It was summer time and I was going with an older sister for a week's vacation to northern Wisconsin. We were taking the train. My sister and a young man began a conversation and eventually decided to go to the club car for a drink. I was under age so it was not possible for me to accompany them.

As a consolation he gave me a book he had been reading. It was Freud's Introductory Lectures on Psychoanalysis. My being unable to go along was fortuitous for in the book I encountered slips of the tongue, errors, forgetting and dreams.

This was the first of many contacts with psychoanalysis. Many of my courses at the University of Chicago (psychology, sociology, and political science) were taught from a psychoanalytic perspective. (However, none of them related psychoanalysis to education.) Several years later I began my own analysis. More recently I received a four-year fellowship for research from the Southern California Psychoanalytic Institute from which I graduated in 1976.

Educational Perspective

John Dewey's ideas have been of tremendous influence on the development of my educational perspective. Two of his books are of particular importance to this discussion: Experience and Education (1938) and The Sources of a Science of Education (1929). In Experience and Education, Dewey elaborates on the struggles in education, showing that the tendency to think in terms of either/ors prevents the development of an intelligent theory of education.

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In The Sources of a Science of Education, Dewey sets forth a paradigm which holds that we should begin with the problems in the field, then turn to the disciplines for ideas, and finally, test out the usefulness of the ideas in the field. Problems in the field of teacher education include research on teacher education as well as on program development.

Problems in Teacher Education

While not an exhaustive list, the following problems have been and will continue to be of importance for teacher educators:

1. What are the purposes of teacher education?
2. What are the significant components and concepts for teacher education?
3. What instructional methods and procedures are effective?
4. Who should be making decisions about the ends and means of teacher education?
5. What are the principles of teaching reverse learning?
6. What institutional arrangements are facilitative?
7. Who should be teaching in teacher education programs?
8. How can teacher education be evaluated?
9. What kind of funding would facilitate teacher education?
10. What contribution can research make to teacher education?

For each of these questions many subordinate questions can be formulated. For the first question, "What are the purposes of teacher education?", some of the subordinate questions are: How should purposes be determined? Whose purposes are to be implemented? How are purposes to be stated? Are the purposes fundamentally to make the country more powerful (productive) or to enhance autonomy and self-awareness among its citizens?

As we reflect upon the questions, we are reminded of the either-or responses given by many in the field of teacher education to these issues.

In relation to the first question, "What are the purposes of teacher education," we encounter a common either-or formulation: either the purposes are cognitive or they are affective. In some teacher education programs, the basic goals are cognitive: knowledge of subject matter, of learners, of teaching. In others the goals are affective: the development of sensitive, caring teachers.

Another either-or formulation relates to who should make decisions about the ends and means of teacher education. Either government officials and legislators should make the decisions or professional educators should.

Chart 1 displays the ten questions indicated earlier, as well as some either/ors that they frequently elicit in writings, discussions, and meetings about teacher education.

Toward Reconstruction

Dewey suggested that neither the "eithers" nor the "ors" are adequate. He indicated that an intelligent theory of education analyzes these contradictions to discover their common basis, then proceeds to delineate pedagogy from this deeper, more inclusive basis. An intelligent theory introduces "a new order of conceptions leading to new modes of practice" (Dewey, 1938, p. 5). With regard to the contradictions endemic to teacher education, psychoanalysis may provide the new order of conceptions necessary to resolve them.

What follows is not a systematic discussion of teacher education; rather, some premises from both education and psychoanalysis will be outlined as well as a proposal for a program for teacher education.

Chart 1

		EITHER	OR
1.	What are the purposes (goals, objectives, outcomes) of teacher education programs?	Goals are cognitive	Goals are affective
2.	What are some significant comments and concepts for teacher education?		
3.	What instructional methods and procedures are effective?	Apprenticeship experiences	Lectures and micro-teaching analysis
4.	Who should be making decisions about the ends and means of teacher education?	State and federal officials and legislators	Professional educators (colleges of education and local superintende
5.	What are the principles of learning and teaching?	Principles emerging from behaviorism--a la Skinner	Principles emerging from humanistic psychology
6.	What institutional arrangements are facilitative?	Teacher education should occur in a multi-purpose institution	Teacher education should occur in a college of education
7.	Who should be teaching in teacher education programs?	Primarily those have been or who are actually teaching in elementary or secondary schools	Anyone who has skills and abilities basic to acquiring teaching skills
8.	How can teacher education be evaluated?	Evaluating changes in learners	Evaluating the teacher performance
9.	What kind of funding would facilitate teacher education?		
10.	What contribution can research make to teacher education?	Research is essential--experimental methods are only appropriate	A good deal--if the research paradigm (experimental) generally utilized can be expanded

Premises

Prior to elaboration of some premises, it is necessary to suggest the kind of person it is hoped would emerge from the educative process. Briefly put: a person who is hopeful, self-controlled, purposeful, competent, faithful, loving, caring and wise. This person would understand self and others and manifest imagining, feeling qualities of mind in all experiencing and behaving. The following premises cut across the questions raised in Chart I and are grouped in four categories: education, meaning, persons, and choice.

Education. First, schools contribute to a learner's development and care. They are developed, organized and administered primarily for that purpose. Schools are not established to provide jobs for people, to keep children off the street, or to feed children. Freud in his Preface to Aichhorn's Wayward Youth (1961) says that there are three impossible professions: educating, healing and governing. By impossible, he refers to the exacting and contradictory demands placed on the professional in each of these fields.

A second assumption is that education is an art based upon verified knowledge, usually referred to as a science. Education works with human nature, as does medicine. Education and medicine are both cooperative arts, both cooperating with nature. Paraphrasing Socrates with regard to teaching, it is the student who is primarily active in the process of learning and the teacher merely assists in a natural process which might be painful and also might fail. Education, too, as well as medicine requires practice because no rule fits all learners or cases.

A third assumption is that the preparation of teachers involves exposure to various kinds of institutional settings. For example, the prospective

teacher should have the opportunity to observe in various kinds of schools - rural, urban, various economic classes, ethnic settings and the like; also, the prospective teacher should participate in some aspects of a classroom while aided and supervised by an experienced classroom teacher. Teaching is a complex task, requiring understandings and skills of various kinds. Universities need to contribute their insights into the acquisition of and about knowledge; elementary and secondary schools need to contribute their settings as well as the insights of their staffs regarding teaching, materials, children and teachers.

Meaning. Why is it so important? If we hope to live not just from moment to moment, then our greatest need and most difficult achievement is to find meaning in our life. This statement, paraphrased from Bettelheim's The Uses of Enchantment (1976), is my first premise. Meaning is so central because human existence, that is, becoming what we can be, is characterized by an expansion and integration of meanings. And it is through this expansion and integration of meanings that persons change.

Secondly, individuals learn only that which has personal meaning for them. If we reflect upon our own experience, we know we have received excellent grades in certain subjects, e.g. curriculum, and yet never really understood what we learned. Or, if we have kept notes from classes taken years ago - and read them again, we are surprised at their insights, which we never used. We had been exposed to so much knowledge that could have been valuable - but was not, because it had no personal meaning for us at the time.

A third premise is that psychoanalytic knowledge provides insight into the meaning of behavior. Freud in his most famous book, The Interpretation

of Dreams, explicates the meanings that dreams can have. Yankelovich and Barrett (1971) say:

> Freud's masterpiece, his Interpretation of Dreams, which followed closely on his early case histories, is mainly a brilliant unlocking of the various kinds of meanings dreams can have. (p. 69)

He also set forth how behavior, whether play, jokes, work, or love had meaning.

A fourth premise is that meaning is grounded in biology. From a psychoanalytic perspective, the human life cycle and social institutions have evolved together. Erikson's (1963) epigenetic schema illuminates the development of meaning. It is important to realize that psychoanalysts view a person as an individual who experiences as well as shapes environment. Human behavior can be understood in terms of social pressures, political demands, etc. only as they have meaning to the individual. For some reason, many investigators simplify or reduce our thinking about human behavior. For example, there are those who reduce everything to economics (the class struggle), and those who reduce everything to sex (the oedipal). What gross oversimplification! There are levels of meaning, any behavior has many meanings, reaching from surface to an inner core - all pertinent.

A fifth premise is that from an external perspective there are many different patterns of meaning. P. Phenix (1964) has elaborated on six fundamental patterns of meaning: symbolics (ordinary language, mathematics); empirics (physical and life sciences, social sciences); esthetics (music, visual arts); synoetics (philosophy, psychology); ethics (moral and ethical concerns); and synoptics (religion, history). Curriculum based upon these areas of knowledge can counteract the fragmentation of experience that is one source of meaninglessness.

Persons. The first premise is that mind and body are inseparable, or, stating it somewhat differently, embodied mind. An anecdote reported by Erickson (1964) conveys the meaning more clearly:

> As an old Jew puts it (and old Jews have a way of speaking for the victims of all nations): Doctor, my bowels are sluggish, my feet hurt, my heart jumps - and you know, Doctor, I, myself, don't feel so well either. (p. 51)

Secondly, an I-Thou relationship is necessary if a person is to become what he or she can be. Teachers can foster genuine mutual contact and trust and it is through this relationship (albeit a titled one) that a learner grows. A teacher not only accepts the student as is, but, also, following Buber (1970), confirms the student's whole potentiality, thereby making a difference in it.

Thirdly, although rationality is essential, it is not sufficient. Bettelheim's (1960) moving comments are the basis for this third assumption:

> ... heart and reason can no longer be kept in their separate places. Work and art, family and society no longer develop in isolation from each other. The daring heart must invade reason with its own living warmth, even if the symmetry of reason must give way to admit love and the pulsation of life. (p. viii)

Lastly, the conceptualization of human personality as set forth by Erikson in Childhood and Society (1963) is most fruitful. In it he elaborates on the growing person's development as a consequence of interaction with other persons in a widening social environment.

Choice. Only two premises here. The first is that learners are choosers and are self assertive. As individuals make decisions and act upon them, they become what they can be. Decision-making enables persons to grow and develop. It is harmful to people if they are unable to influence the environment in which they live. If individuals do not make decisions, but expect to rely upon others, they are less human than they could be.

Lastly, school provides a setting for relationships and activities which enable a learner to widen the options for choice. Or, to say it somewhat differently, as learners engage in relationships characterized by trust, affirmation, and meaning, they become more open to the exploration of new ways of being.

A Proposed Teacher Program In a University Setting

Underlying Themes of a Teacher Education Program:

Five themes viewed psychoanalytically serve as the basis for conceptualizing a teacher education program, as well as research appropriate to such a program. These themes are: 1) a developmental approach for understanding human behavior as elaborated by Freud and Erikson; 2) the decisive importance of human relationships in teaching and learning; 3) teaching as a helping profession; 4) the value and necessity of self-observation and reflection; and 5) the meaning of all aspects of the teaching-learning situation.

Good News and Bad News About This Conceptualization

The good news is that this conceptualization is to be implemented in our Teacher Education Laboratory. Therefore, the form of it has been shaped by the setting of our Teacher Education Laboratory in a large public university.

The bad news is that I can give you no information about how it has fared. Nonetheless, I have taught several courses in Reiss-Davis' programs for educators when it was directed by Dr. Motto, a psychoanalyst. Also, at UCLA I have taught at the undergraduate level a course, Psychoanalysis and Education, in a Freshman/Sophomore Professional program. At the graduate level I regularly teach a curriculum seminar which is based upon psychoanalytic ideas. So, the program I will be outlining has been in part taught in various settings and with various age groups.

Program

At UCLA, teacher education is an all-university function. The University assumes that all teachers must be liberally educated and that excellence in subject matter is a necessity. The School of Education through the Teacher Education Laboratory is responsible for providing the essential part of the professional component. The Laboratory assumes that there are a number of different theoretical approaches that can be used to help teachers become effective. Students are able to choose which approach they wish to pursue.

Each approach has its own rationale and its own strategies for the preparation of teachers. Admission to teacher education is made in the junior year at the University. All applicants for admission are carefully screened by a committee. Criteria for admission include pre-professional experience, academic preparation, grade-point average, statement of purpose, letters of reference and minority cultural experience.

The program outlined here is for those who wish to teach in grades kindergarten through sixth. There are four didactic courses: an observation and participation course, student teaching, and two courses concerned with the teaching of reading and the teaching of other subjects.

Didactic Courses

Education 112 - Psychological Foundations of Education. This course focuses on a developmental approach to human behavior. Erikson's epigenetic schema and Anna Freud's developmental schedules will be explored. Utilization of Erikson's schema makes clear the significance of parents, peers and other adults. The major share of the reading will be from Childhood and Society; Normality and Pathology in Childhood; From Learning for Love to

Love of Learning; Uses of Enchantment, and On Dreams. Some films, "Carousel," "Unconscious Motivation," and "400 Blows," will be used. Short stories: e.g., "In a Region of Ice," "The Condemned Librarian." Cassettes: Speaking of the Truth Behind Fairy Tales; Clinical Use of Dreams. There will be some attention given to self-observation and understanding.

Education 312 - Curriculum and Instruction in the Schools. Programmed material will be used to help students acquire some fundamental insights into curriculum and instruction, specifically, the formulation of objectives, the selection of learning experiences, organization and evaluation. Then these same curricular concerns will be viewed from a psychoanalytic perspective. What meaning curriculum and instruction has for learners and teachers will be explored. Films and literature will be used. For example, films, such as Rachel, Rachel, The Corn is Green, and short stories or novels, such as "A Region of Ice," "Accomplished Desires," "The Condemned Librarian," The Children's Hour.

This course will emphasize the significance of the teacher as a helping, caring-for individual and will further the student's understanding of self in relation to the teaching task.

Education 100A - Cultural Foundations of Education. This course will focus on the interaction of indivduals with culture. School will be viewed as a social system, with a life of its own. How the school develops, changes or resists change will be viewed from psychological and sociological concepts. A view of the importance of the school as an institution and teaching as a profession will be set forth. Works by Jaques, Sofer, Freud, Bion will be fundamental to the course. Films: e.g., Tea and Sympathy and novels.

Education - 324 B/C - Supervised Teaching. Students will be assigned to schooling institutions wherein the school's philosophy emphasizes self-aware-

ness, interpersonal relationships and a developmental view of learning and teaching. Of course, the whole program will fall apart if there is a lack of integration between the didactic courses and the practice teaching experience. There are school settings in the Los Angeles area which will augment the course instruction which has been just outlined.

Proposals for Research on Teacher Education

General Comments

Fortunately, the nature of scholarly inquiry is evolving. No longer is there a single paradigm used to arrive at knowledge. Some fairly recent statements elaborating the usefulness of some of these changes are those of Guba (Note 1), Tom (1980), Mishler (1979). Mishler's article, "Meaning in Context: Is There Any Other Kind?" and Yankelovich and Barrett's Ego and Instinct (1971) are fundamental sources for me - Mishler's because of his focus on meaning and Yankelovich and Barrett because of their analysis and reformulation of the philosophic foundations of psychoanalysis.

Perspective

Currently, according to psychoanalytic theory, there are two orientations to the explanation of experience (Klein, 1976). One is theory framed in terms of meaning; the other in terms of neurophysiological concepts. My orientation here is not with the neurophysiological - which views human experience impersonally, non-teleologically, reductionistically. This does not mean that the neurophysiological is not useful. Rather my interests and training are such that I wish to explore theory framed in terms of meaning.

More specifically, I wish to focus on experience from the individual's view, the reasons for the engaged-in experience and the underlying motives

and aims. How this may be accomplished is not only difficult to conceptualize, but also to implement. Let me try to discuss this briefly.

Yankelovich and Barrett have elaborated, using Kant's distinctions between constitutive and regulatory principles, a basis for new premises for psychoanalysis. Constitutive propositions make explicit the ideas about human nature, culture and freedom which describe the nature of the subject. Regulatory propositions deal with how to acquire, verify, and make use of knowledge. Accepting the idea that ontology dictates epistemology, some constitutive propositions will be set forth first. Then the regulatory.

A. Constitutive - (Ontology)

1. A developmental approach (a la Erikson) which includes a series of stages, modalities, and crises.
2. Culture (school) mediated by personal experience both triggers and assists maturation.
3. Meaning is central.
4. The person (whether child or adult) is complex and cannot be thought of, viewed or responded to in reductionistic terms (e.g., humans are only sexual animals).
5. Persons are self-determining within the boundaries of nature and culture.
6. Persons are valuing creatures as naturally as they are breathing, walking, defecating, talking persons.

B. Regulatory - (Epistemology)

1. Explanation as description is based upon case studies.
2. Explanation as description is based upon modes of being (past, future, as well as present). Modes of being are related to Erikson's psychosocial modalities. Modes of being refer to giving,

taking,

sharing, making, being.

3. Explanations which include why (purposes-reasons) as well as continuities, coherence and integrity (based upon George Klein). Also related to Erikson's modalities.

An Investigation of Instructional Methods

In the didactic courses outlined here much use is made of literature (short stories, novels, drama) and film. It is assumed that literature and film can sensitize students to meanings of behavior.

It is fairly easy to decide whether the short stories, novels or films are pertinent to the content of a course. In the psychological foundation course outlined here (Ed. 112), several short stories are to be used. They all deal with educators in various relationships - with students, with parents, with authority figures. It is much more difficult to understand the meaning of the materials in themselves.

A second kind of investigation is to ascertain what meanings students are making of these stories; and a third kind of investigation would be to ascertain the students' responses to the stories in a group situation.

I have made a beginning on the first kind of investigation by analyzing "The Condemned Librarian," "In a Region of Ice," "The New Woman and the Old," and "Accomplished Desires."

Three themes from psychoanalytic literature have been used to make sense of these short stories. First, the central characters' unawareness of some of their motivations; second, unresolved ties to mother, and third, the inability to love and work. Other investigations will follow.

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Research on Classroom Contexts: Toward a Knowledge Base for Policy and Practice in Teacher Education

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A dramatic shift is occurring in research on teaching. More attention is now being given to subject matter, grade level, and characteristics of students as factors which influence the effectiveness of teaching practices (Brophy & Evertson, 1978; Good, 1979). In addition, research has begun to focus more directly on student variables as causes of observed conditions in classrooms as well as mediators of teaching effects (Woods, 1979; Doyle, Note 1). Finally, special efforts are being made to understand the complex management tasks that teachers face in classrooms and how these tasks shape teacher planning and decision making (Doyle, 1979b; Evertson, 1981; Emmer, Evertson, & Anderson, 1980).

In this paper I have attempted to outline the potential contributions to teacher education of some of these new directions in research on teaching. As the title of the paper suggests, "context" has become a central notion in this research. Understandably the term has acquired several meanings, reflecting the diversity of current approaches in the field. But it is clear that context variables, especially those operating within the boundaries of the classroom itself, influence teaching processes in significant ways. In brief, the emphasis on context has focused attention on the situational competence required for successful teaching, a type of teacher competence that has often been overlooked in teacher education policies and programs.

I have used the adjective potential to describe the contributions of research on classroom contexts for at least two reasons. First, such research is relatively new. Indeed, major efforts in this area are less than five years old and many are just beginning to gain momentum. It remains to

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be seen, therefore, how these approaches will actually influence teacher education. Second, there is little evidence that the focus on context apparent in research on teaching--a focus rooted in the works of Jackson and Kounin published in the late 1960s--has found its way into teacher education. Teacher educators have tended to cling to a fairly traditional paradigm in conducting inquiry and planning programs, and the present emphasis on accountability is likely to sustain that traditional viewpoint. I suspect that a major conceptual reorientation will be necessary before studies of classroom contexts can become part of the knowledge base for teacher education.

Recent changes in research on teaching reflect (a) the movements in psychology toward a more thorough study of human cognition (e.g., Anderson, Spiro, & Montague, 1977) and the analysis of situational effects (e.g., Cronbach, 1975); and (b) the attraction of a broad range of scholars from such disciplines as anthropology and sociology to the study of classroom processes. To underscore the significance of these new developments for teacher education, I first examine briefly some of the traditional patterns of thinking in the field. I then describe some of the features of research on classroom contexts with particular reference to the concepts of task and activity. Finally, I relate the work on classroom contexts to recent studies in classroom management and in teacher decision making.

Teaching Effectiveness

The dominant questions in teacher education have been ones of management and control, centering especially on decisions about selecting content for teacher education curricula and evaluating students. In coping with these problems, teacher educators have sought to establish criteria upon which to base decisions and defend their validity. A wide range of psychological,

philosophical, and homespun resources have been used to establish these criteria. On occasion, teacher educators have turned to studies of teaching, and especially research on teaching effectiveness, to confirm the legitimacy of policies and practices. The characteristics of this research tradition have, in turn, shaped how teacher educators think about teaching processes.

The intellectual heritage of teaching effectiveness research has been explored in detail elsewhere (Doyle, 1977b). But a brief review of that heritage is necessary to understand the effect of teaching effectiveness inquiry on teacher education.

There are basically two approaches to defining effective teaching practices. The first consists of extrapolating from laboratory research to design a model of how teaching should occur. Some extrapolators have recommended that classrooms be redesigned to approximate more closely the psychology laboratory (Glaser, 1966). Others have used basic research to construct a variety of personal, social, and information-processing models for teacher-student interaction in classrooms (Joyce & Weil, 1972). In both cases, two implicit assumptions are made: (1) the best knowledge base for teaching is one that is derived from experimental laboratory studies; and (2) common practices in classrooms, because they often differ from what laboratory-based models recommend, need to be changed. In teacher education, this dissatisfaction with classrooms has engendered a reformist spirit which directs attention to alternative rather than existing practices. Unfortunately there is often little data to suggest that extrapolated models actually have the efficacy claimed for them or that these models can be used efficiently in conventional classroom contexts.

The second approach to teaching effectiveness consists of direct studies of classroom performance. In such studies, data from observations of teacher

and student behaviors are correlated with measures of outcomes, usually class mean scores on student achievement and/or attitudes. In this way, naturally-occurring practices associated with relatively greater gains in achievement or attitudes can be identified. Recent reviews of major correlational and experimental studies conducted in the 1970s (Brophy, 1979; Good, 1979; Rosenshine, 1979) suggest that: (a) there are teaching effects, especially for measures related to time spent on criterion content, but the strength and generality of these effects are probably less than many had originally hoped; and (b) establishing reliable process-product relationships is a difficult task, suggesting that unvalidated claims to efficacy need to be viewed with considerable skepticism.

Direct studies of effective teaching are clearly relevant to defining the content of teacher education, in part because the findings from such studies are contextually valid, that is, they are based on events that actually occurred in classrooms. But effectiveness studies are incomplete in two ways. First, the observational and analytical tools of teaching effectiveness research tend to fragment teaching processes into discrete and narrowly defined variables (praise, questions, qualities of teacher talk, etc.) and to freeze the action of classrooms. The result is a list of characteristics or conditions associated with higher achievement or more positive attitudes. But it is difficult to ascertain from this information how these conditions associated with effectiveness are brought into being and sustained over long periods of time in classrooms. Hence using the results of teaching effectiveness studies required that teachers supply their own classroom knowledge. Teacher educators, however, are given little direction for helping inservice teachers who cannot make this translation themselves or for preparing preservice teachers to manage classroom realities.

Second, the conceptual framework of teaching effectiveness research tends to be individualistic. As a result, evidence concerning specific process-product relationships is often interpreted as if the interaction occurred between a teacher and a single student. But classrooms are collective settings and teaching "treatments" are administered to groups of students. To think about teaching in terms of the learning and development of individuals is hardly adequate preparation for dealing with the management of classroom groups.

In sum, then, teaching effectiveness research has tended to generate a fragmented and individualistic view of teaching processes. Teaching is approached as a list of discrete skills and as a chain of dyadic contacts. And yet the basic skill of teaching, viz., orchestrating a large number of behaviors to manage a classroom group for several months, is poorly represented. The teaching effectiveness question is by no means trivial, but answers to this question are not sufficient to define the knowledge base for policies and programs in teacher education.

Research on Classroom Contexts

The study of classroom contexts encompasses a growing and certainly diverse body of research directed to understanding the natural rhythms of classroom life. There are at least three common features to this work:

1. an emphasis on long-term observation using narrative accounts primarily rather than pre-established categories or rating sheets;
2. a focus on describing classroom processes in such a way that behavior is viewed within the framework of surrounding events;
3. a concern for participants' perspectives on classroom events, for how teachers and students make sense of classroom realities.

The studies center, in other words, on understanding the distinctive properties of classrooms and the interaction between environment and behavior in these settings.

Interest in classroom contexts was probably stimulated by the critical accounts of schooling appearing in the 1960s (e.g., Henry, 1963; Holt, 1964; Kozol, 1967). In contrast to the impersonal statistical summaries which characterized most studies of teaching, these critics told vivid stories of human conflict, incompetence, and failure in classrooms. The widely cited studies by Jackson (1968), Smith and Geoffrey (1968), also published in the late 1960s, called attention to dimensions of classroom life that often slipped through the category systems of Flanders and others. Finally, Kounin (1970) and Gump (1969; see also Kounin & Gump, 1974), working in the tradition of ecological psychology, provided important insights into how teacher and student behavior is shaped by classroom activities.

This early work on classroom environments is now being pursued further within the fields of research on teaching and research on teacher education (for a discussion see Doyle, 1979a). Of particular importance are the works of Evertsor, (1981) on classroom management, Yinger (1980) on teacher decision making, and Copeland (1979, 1980) on processes in student teaching.

Research on classroom contexts has also been enriched recently by a diverse and growing body of linguistic, ethnographic, and participant observation studies. Prominent American investigators include Bossert (Note 2), Mehan (1979), Cazden (see Cazden, Hymes, & John, 1972), Erickson (see Bremme & Erickson, 1977 and Erickson & Schultz, 1977), McDermott (Note 3), Everhart (1979), Blumenfeld (see Blumenfeld, Hamilton, Bossert, Wessels, & Meece, in press), Schultz & Florio (1979), Sieber (1979), Metz (1978), and Borman (1978). Important work in this area has also appeared in England.

Special mention can be made of the research of Woods (1979), Hammersley (1974), Hargreaves (see Hargreaves, Hestor, & Mellor, 1975), Nash (1973), Sinclair and Coulthard (1975), and Edwards and Furlong (1978). These studies have been especially helpful in understanding the social organization of classroom events and the naturally-occurring language patterns in classroom lessons.

It is impossible to summarize in any detail this broad range of investigations, although more specific attention will be given to management and decision-making studies shortly. At this point, two general contributions of this work on classroom contexts can be noted. First, the analysis of classroom contexts has provided insights into the distinctive nature of these settings, insights which have enabled investigators to interpret data on teaching effects. Classrooms are very complex settings with multiple dimensions, many of which operate simultaneously, and an immediacy and unpredictability of events (see Doyle, 1977a). In addition, life in classrooms has a history of several months and teacher-student interactions are visible to all participants. As a result, norms for behavior develop, expectations about future events can be fine-tuned, and questions of fairness and justice are ever present. Given these dimensions of the classroom environment, it is unreasonable to expect that "treatments" in the classroom will necessarily operate in the same way as they do in the laboratory. Indeed, the gap between the laboratory and the classroom is far greater than many in psychology and education have presumed. As Brophy (in press) has recently argued, praise in classrooms has many functions other than reinforcement of correct responses. From this perspective, the equivocal findings concerning the effects of teacher praise on student achievement (Rosenshine, 1971) become understandable.

Second, attention to classroom contexts has brought into focus new questions for research on teaching. Two of these questions are particularly important for building a knowledge base in teacher education: (1) how do teaching effects occur and (2) how do classrooms work. What follows is an attempt to summarize briefly the work that is being done on these questions.

Academic Tasks

The immediate question in teaching effectiveness research is: What conditions are associated with higher achievement or more positive attitudes? But when one examines lists of process-product relationships it is difficult not to wonder how certain conditions become associated with outcomes. To answer this question of how teaching effects occur it is necessary to trace the processes that connect classroom events to outcomes, to analyze, that is, the student processes that mediate teaching effects. One way to examine mediating processes in the classroom context is to focus on the academic tasks students encounter (see Doyle, Note 1). The premise of this type of work is that how students think about subject matter is governed by the tasks they are required to accomplish with that subject matter. A task which requires students to reproduce information encountered in instruction produces different outcomes than a task which requires students to understand information and draw inferences. From this perspective, outcomes--that is, what students learn--are a function of the tasks students accomplish in classrooms. Of course, if no tasks are required, then little learning can be expected. In addition, individual students can misinterpret the tasks posed by a teacher or accomplish the tasks in ways that circumvent the intended modes of information processing.

A useful way to understand the concept of academic tasks and to study how tasks operate is to focus on the answering occasions in a classroom.

Once answering occasions are identified, it is possible to trace the information sorting and processing requirements that students actually experience. This kind of tracing often requires continuous daily observations since the information necessary for a given answering occasion may be presented at different times. Some answering occasions can, in other words, organize classroom events across several class sessions.

Preliminary studies of academic tasks in classrooms suggest the following tentative conclusions:

1. Students tend to think about classroom events in terms of academic tasks and their accomplishment (King, Note 4). Tasks, in other words, provide a structure within which students perceive and interpret teaching events. Whether a particular teaching behavior affects achievement would seem to depend, then, on how it functions in the task system of a given classroom.
2. Different tasks are associated with different configurations of classroom processes (Carter, Note 5; Doyle, Note 6). Tasks which require memory or routine application of predictable formulae, for example, are implemented more efficiently and with more immediate and continuous student involvement than tasks which require understanding or problem solving. The type of task a teacher intends students to accomplish, then, has consequences for the use of teaching behaviors and the management of classroom order.

The concept of academic tasks provides, then, a way of tying together classroom events associated with outcomes and a way of understanding the classroom context as experienced by students. Information about classroom tasks has important implications, therefore, for selecting variables and interpreting findings from studies of teaching effectiveness and student

perceptions. The focus on tasks has also directed attention to content in research on teaching and to the curriculum in use in the classroom. The tasks a teacher structures define the way in which the curriculum is represented to students in the classroom and shape, therefore, what students actually learn from their encounters with subject matter. A careful study of the strategies students use to get answers and the way teachers contribute to the development of these strategies is a promising area for understanding the long-term effects of schooling on achievement (Davis & McKnight, 1976; Peck, Jencks, & Chatterley, 1980). The concern for content also augments the traditional concentration on interpersonal relationships in research on teaching.

From the perspective of teacher education, the concept of academic tasks and especially the notion of answering occasions would seem to provide a framework for helping teachers think about student learning in classroom terms. Teachers direct student learning processes not simply by lecturing, answering questions, or praising. They guide student information processing first and foremost by constructing and implementing academic tasks and holding students accountable for accomplishing these tasks. Directing teachers attention to tasks gives them a way to think about content and how content is translated into classroom realities. In addition, the concept of task provides a way for teachers to relate psychology to education since information from psychology is probably the most useful for designing academic tasks rather than prescribing teaching behaviors.

Classroom Management

Issues of teaching effectiveness are addressed in terms of the classroom conditions associated with student achievement. But a fundamental question remains: How are these classroom conditions brought about? This is an

especially important question in defining a knowledge base for teacher education because it is concerned with the basic task of teaching in classrooms: namely, classroom management.

The topic of classroom management and discipline stirs strong sentiments in everyone, especially beginning teachers (Fuller, 1969). It is certainly an area of professional education that has felt strongly the impact of psychology (see Brophy & Putnam, 1979; Doyle, 1978). Specialists from both the mental hygiene (e.g., Dreikurs, 1957; Glasser, 1969) and behavior modification (e.g., O'Leary & O'Leary, 1977) branches of psychology have been especially active in devising models and recommending techniques for classroom management and discipline. But much of this material focuses on how to deal with individuals rather than how to manage classroom groups. The classroom context, that is, is seldom represented in a large portion of the literature on discipline.

A slightly different pattern can be seen in the psychologizing of teaching method by learning specialists, but the results are quite similar. Attempts to relate the psychology of learning to teaching has tended to separate the literature on teaching from the literature on classroom management. A recent National Society for the Study of Education yearbook on teaching method (Gage, 1976), for example, does not have a chapter or even an index entry on classroom management or discipline. This omission is understandable since the problems of group management which prevail in classrooms are seldom present in the learning experiment. This separation has led, however, to a decontextualizing of thinking about teaching and to a large body of research on teaching in which little attention is paid to management variables (see Gage, 1963; Travers, 1973). Fortunately, this pattern is changing. Recent studies of teaching effectiveness have

incorporated management variables, many of which were derived from the remarkable research of Kounin (1970), and the results of these studies suggest that management variables are consistently associated with achievement (Brophy, 1979; Good, 1979). In addition, major research efforts are being made by Evertson and her associates to identify characteristics of effective managers and understand better how classroom order is accomplished (Emmer, Evertson, and Anderson, 1980; Evertson, 1981).

Research on classroom contexts has been especially useful in clarifying the management task of teaching in classrooms. From a management perspective, the immediate task of the teacher in the complex enviornment of the classroom is to gain and maintain the cooperation of students in activities that fill the available time (Doyle, 1979b; 1980). Central to this conception of the teacher's task is the notion of "activity," i.e., a pattern for organizing work for a unit of time. Common labels for activities refer either to the organization of work (e.g., seatwork, small group discussion, lecture) or to content (e.g., art, spelling, vocabulary). Other key dimensions of an activity include duration, the physical space in which the activity occurs, the type and number of students, the props or resources used, and the expected behavior of students and and the teacher.

Within the activity framework, the concept of answering occasion developed earlier in the discussion of academic tasks is especially useful. From a teaching perspective, i.e., from the perspective of establishing and maintaining activities, students' academic tasks appear as answering occasions. The extent to which students can supply answers affects the flow of an activity and, thus, the extent to which a teacher can accomplish the basic task of teaching in a classroom.

Management studies suggest that the degree of order achieved in a classroom depends fundamentally on the early establishment and maintenance of an activity system (Emmer, Evertson, & Anderson, 1980). Activities, in other words, organize and direct the behavior of students and thus carry the burden of management. If there is no activity, students will have nothing to do and teacher interventions to stop misbehavior will have little effect.

Research on teacher decision making suggests that experienced teachers organize their thinking about teaching in terms of activities, i.e., in terms of patterns of organizing work for groups of students (see Doyle, 1979b; Yinger, 1980). This is a reasonable practice, given the central role of activities in accomplishing the task of teaching. With experience, teachers also accumulate knowledge about events that are likely to occur when different activities are used with different groups of students. Such classroom knowledge is especially useful in anticipating consequences during planning and interactive decision making. In other words, teachers can use classroom knowledge to select and arrange activities to fit the characteristics of a particular group and to carefully monitor and time the activity in use to adjust it to changing circumstances.

More research is needed on how management is accomplished (i.e., what the content of classroom knowledge is) and how classroom knowledge is acquired by teachers. But it is clear that the notion of activities is central to understanding how teachers experience classroom environments and how conditions of effective teaching are established and maintained. Such research is thus central to the development of an adequate knowledge base for teacher education.

Conclusion

The basic argument of this paper is that contexts pose tasks which in turn shape information processing. Such an approach directs attention to the central role of thinking in teaching and places a premium on knowing what to see and when to act rather than simply what to do. To know what to see and when to act, teachers must acquire constructs that reflect the realities of classroom life. Without these constructs, knowledge of content or learning and development, or even skills in discrete teaching practices, cannot be used in the classroom. Research on classroom contexts promises to supply the foundation for constructs that underlie situational competence in teaching. For this reason, research on classroom contexts defines a central aspect of the knowledge base for policies and programs in teacher education.

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